

**Male Migration from Rural India:
Divergent Pathways to Long-Term and Circular Migration**

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Abstract:

Research on migration in India has been hampered by lack of data as well as clarity regarding the process of migration. Do long-term migration and short-term circular migration form a part of the same continuum? Do similar forces affect both? How does changing opportunity structure affect these two processes? Using data from the two waves of India Human Development Survey, a nationally representative panel survey of households, this paper examines to factors affect male migration from rural areas. The results suggest that long-term migration and circular migration are driven by very different factors. Long-term migration forms a part of households' mobility strategy and is used by educated, higher income and upper caste households. In contrast, short-term circular migration forms a part of households' survival strategy and is used by less educated, poor households belonging dalit and adivasi communities.

These results suggest that provision of rural employment is likely to have little impact on rural male outmigration for long-term workers but may reduce distress migration associated with low rural wages.

“.... Punjab has always loved its migrant population and welcomed it with arms wide open. For the 'outsiders' - mostly from Bihar - the attraction has been Punjab's booming industry and agricultural sector.

And then, National Rural Employment Guarantee Scheme (NREGA) happened. With at least one person from every household guaranteed 100-day employment in a year, the central scheme has proved a boon for states like Bihar, but a bane for Punjab.

With its heavy reliance on migrant population, the northern state is now reeling under a labour crisis that threatens to cripple production.”

--- Simran Virk, Times of India, October 21, 2009

“Millions of footloose and impoverished men, women and children in India, migrate from the countryside each year to cities – in crowded trains, buses, trucks and sometimes on foot – their modest belongings bundled over their heads, in search of the opportunities and means to survive. Some arrive alone; some are accompanied by family or friends. Some stay for a season, some several years, some permanently. Many tend to drift quickly to low-end, low paid, vulnerable occupations – picking waste, pulling rickshaws, constructing buildings and roads, or working in people’s homes.”

---- Mander and Sahgal, 2012

Introduction:

The subject of migration in India remains contested (de Haan 2011). On the one hand, micro studies based on migrants, particularly those focusing in short-term circular migration focus on the role of economic distress in prompting migration and suggest that migration is concentrated among the more vulnerable sections of the society, particularly the dalits and the adivasis. In contrast, macro studies based on the National Sample Surveys seem to suggest that migration is concentrated among more privileged segments of the society. This disjunction takes on particular importance since the implementation of the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) where we simultaneously hear cries from employers who attribute worker shortage in urban factories to implementation of MGNREGA and from policy makers who worry that implementation of NREGA is not doing enough to reduce migration.

One of the difficulties in drawing conclusions based on existing studies lies in the analytical strategy. Migration and poverty are closely interlinked. Poverty may well push individuals into looking for jobs outside their localities; but migration may also lead to higher incomes for both migrants and the families they leave behind. In this

paper, we look at prospective data using two rounds of India Human Development Survey (IHDS) conducted in 2004-5 and 2011-12 to examine the relationship between pre-migration household and labour market conditions and migration of men ages 16-40 from rural areas.

Competing Theoretical Perspectives:

Competing perspectives on drivers of migration offer very different prognoses for the future of migration in India. Three perspectives deserve particular attention:

1. Early research on migration relied on neoclassical economic models in which differences between incomes in origin communities and expected incomes in destination communities is assumed to drive migration (Harris and Todaro 1970; Ravallion and Wodon 1999; Sjaastad 1962) (Harris and Todaro 1970; Ravallion and Wodon 1999; Sjaastad 1962). Within this framework, economic growth in rural areas may serve to stem migration.

2. In the 1980s, the New Migration Literature broadened this discussion to include risk diversification (De Haan and Rogaly 2002; Lucas 1997; Stark 1991) (De Haan 2006; De Haan and Rogaly 2002; Lucas 1997; Stark 1991) in which migration is viewed as a household rather than an individual strategy. Under this framework, households are expected to send some members to work in urban areas to guard against potential income fluctuations associated with draught and other agricultural risks and agricultural development may initially lead to higher migration since richer areas and households may be better able to finance initial migration expenses and income diversification through migration may increase their ability to engage in high risk, high reward cropping patterns (Hatton and Williamson 2002).

3. The sociology of migration has emphasised the role of social structure in shaping migration (Massey and Taylor 2004; Portes 1997). Social networks create information and opportunities for migration. Once outmigration from an area begins, it becomes self-perpetuating as early migrants encourage their neighbours and relatives to join them (Banerjee 1983).

Each of these perspectives suggests very different hypotheses about the contextual and household conditions encouraging migration.

- The neoclassical economic model would suggest that workers from poor households and areas with low wages would be more likely to migrate. It would also suggest that MGNREGA would help reduce migration.
- Income diversification perspective, in contrast, would suggest that larger households and households that have greater access to resources (e.g. income or education) will be more likely to be able to finance migration.
- Social networks perspective would suggest that migration is self-perpetuating and once some members of social network migrate, others will follow.

Part of this disjunction lies in the definition of migration. While it is well recognized that a substantial proportion of labour migration in India is temporary with workers leaving in search of seasonal employment, conceptually we seem to think of both seasonal and long term migration as being part of the same continuum (Mander and Sahgal 2012) and assume that the same processes drive both.

In this paper we show that short-term circular migration is part of a household survival strategy while long-term migration is part of a mobility strategy – consequently households in economic distress tend to rely on seasonal circular migration while more privileged households rely on long-term migration.

Data: India Human Development Survey (IHDS)

In order to explore the linkages between economic conditions in the origin location as well as in the household of origin, and the probability of migration, it is important to look at the out-migration from the household. National Sample Survey (NSS) forms the only source of macro data for out-migration, although it is rife with measurement error. The 64th round of NSS asked, “whether any former member of the household migrated out any time in the past”. This question neither defines the household, nor does it specify a reference period. Since household structures often change in the context of migration (e.g. wife may move in with her parents or parents-in-law when her husband migrates), respondents may find it difficult to identify who should be included and who should not be included in their response. Moreover, it is not clear how far back the respondents need to look.

We are fortunate to be able to gain a more precise handle on out-migrations and return migrations using prospective data from India Human Development Survey (IHDS). India Human Development Surveys I (2004-5) and II (2011-12) are part of a collaborative research program between researchers from the National Council of Applied Economic Research and University of Maryland. The IHDS is a multi-topic survey designed to examine changes in livelihoods and life-styles of Indian households in an era of rapid social transformation.

These surveys provide a rich empirical data base that will be available free of charge to a wide range of researchers in India and abroad, providing data for informed policy debates. The IHDS-I data are already available freely and are being used by about 4,000 users worldwide. IHDS-II data are being documented and will be available by June 2015.

IHDS-I is a nationally representative survey of 41,554 households conducted in 2004-5. IHDS-II has reinterviewed 83% of the original households as well split households residing within the same locality and an additional sample of 2134 urban households. This makes the sample size for IHDS to be around 42,152 households. The sample is spread across 33 (now 34) states and union territories and covers rural as well as urban areas. Most of the IHDS-I interviews were conducted between October 2004 and December 2005; most of the IHDS-II interviews were conducted between October 2011 and December 2012. IHDS-I and IHDS-II collected extensive data on education, health, livelihoods, family processes as well as the way in which households are embedded in a broader social structure. Contextual information was also collected

in surveys of village infrastructure and markets, and from one private and one government school and medical facility in each village/block.

Interviewers in IHDS-II were given a list of members residing in their assigned households in 2004-5. Using this list, they confirmed the location of each 2004-5 household member during the 2011-12 interview. Thus, we tried to obtain the whereabouts of each of the 215,754 household members from IHDS round 1 during the IHDS round 2 interview. In case of migrants, proxy information about their current whereabouts was obtained from the household members still in place or neighbours. It is important to note although a large proportion the losses in rural areas was due to the inability of the interviewers in obtaining respondent cooperation or temporary travels for holidays or weddings, at least some of the household losses may be due to migration where neighbours were not able to provide any information. Thus, our estimates of migration are on the lower side. We believe that this is a bigger problem for the urban sample than the rural sample. However, since sample losses due to non-contact could include some migrants, the final analyses were replicated in which we assumed that every household lost to reinterview was due to migration. The results of this sensitivity analysis suggest that while treating all sample losses as migration adds measurement error and thereby reduces coefficient size for some of the key relationships, the conclusions do not change.

For the individuals still residing in the household, the respondents were asked, "Have you or any member of your household left to find seasonal/short term work during last five years and returned to live here?" The interviewers were asked to probe about relevant work such as during harvest, temporary work in brick kiln/construction, tourist season etc. and to include absences of at least one month. Taking these two sets of questions and combining them with pre-migration information available in survey round 1, we obtain a fuller picture of migration from rural India. Circular migration is slightly underestimated since it is based on a five year reference period as opposed to nearly 7 years for long-term migration.

**Table 1a: Status of IHDS-I (2004-5) household members at the time of IHDS-II (2011-12) interview
(Rural Males)**

Age	Non-Migrant	Long Term Migrant	Whole Family Migrated	Return Migrant	Died	Lost in Reinterview	Total
0-5	83.9	10.7	0.4	0.1	1.2	3.7	100
6-10	77.7	14.7	0.7	1.4	0.6	4.9	100
11-15	67.3	22.7	0.4	4.3	0.8	4.5	100
16-20	63.5	21.6	0.4	7.1	1.3	6.1	100
21-25	66.5	17.2	0.6	7.4	1.7	6.5	100
26-30	69.2	15.1	0.5	6.6	2.2	6.4	100
31-35	76.5	9.7	0.8	5.5	2.6	5.0	100
36-40	79.0	7.2	0.5	5.1	3.2	5.0	100
41-45	81.3	5.2	0.7	3.0	5.6	4.2	100
46-50	81.3	3.5	0.4	2.1	6.5	6.3	100
51-55	79.2	2.6	0.2	1.1	11.5	5.4	100
56-60	74.1	2.5	0.6	0.8	15.6	6.4	100
61-65	66.3	2.5	0.7	0.9	22.2	7.4	100
66-70	57.4	1.2	0.3	0.2	35.0	5.8	100
71-75	49.1	2.3	0.8	0.0	40.6	7.2	100
76-80	42.1	2.9	0.1	0.0	46.7	8.2	100
85+	41.4	1.0	1.2	0.0	54.1	2.2	100
Total	73.0	12.6	0.5	3.6	5.0	5.3	100
Sample Size	53637	9180	407	2266	3701	3724	72915

* Age refers to age at 2004-5 interview and hence the age at migration may be 1-7 years beyond the age from the round 1 of the survey.

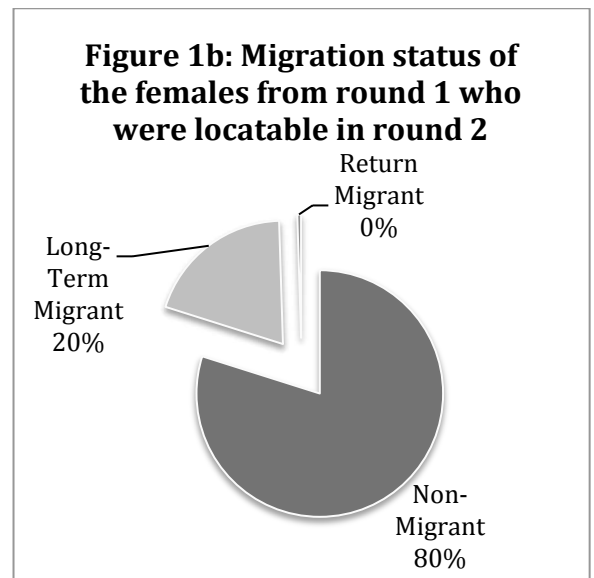
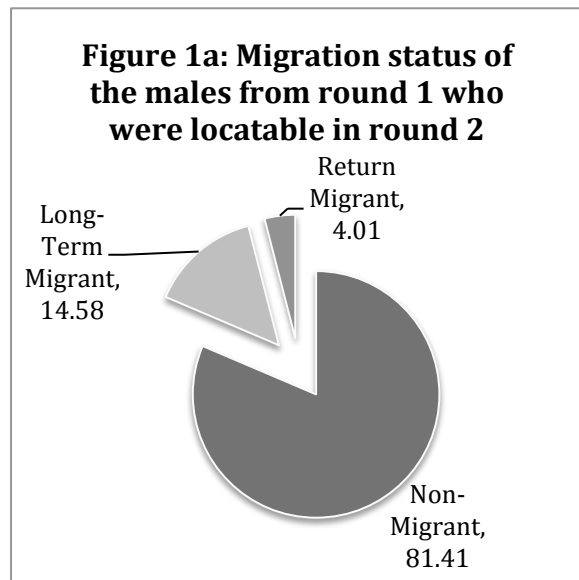
Table 1b: Status of IHDS-I (2004-5) household members at the time of IHDS-II (2011-12) interview (Rural Females)

Age	Non-Migrant	Long Term Migrant	Whole Family Migrated	Return Migrant	Died	Lost in Reinterview	Total
0-5	84.5	9.5	0.3	0.0	1.5	4.1	100
6-10	76.8	16.8	0.6	0.2	0.7	4.9	100
11-15	47.9	45.4	0.6	0.4	0.7	5.0	100
16-20	43.3	48.3	0.4	0.5	1.3	6.2	100
21-25	71.7	19.3	0.5	0.6	1.1	6.8	100
26-30	80.7	9.4	0.7	1.0	1.7	6.4	100
31-35	86.8	5.3	0.8	1.2	1.6	4.3	100
36-40	87.4	4.0	0.5	0.9	2.0	5.2	100
41-45	87.5	2.9	0.4	0.6	2.9	5.8	100
46-50	85.9	2.4	0.4	0.2	4.5	6.6	100
51-55	84.2	2.3	0.5	0.2	6.4	6.4	100
56-60	76.0	2.9	0.9	0.1	14.0	6.2	100
61-65	72.2	2.1	0.7	0.0	18.8	6.2	100
66-70	61.2	3.0	0.2	0.2	28.9	6.5	100
71-75	53.9	3.0	0.8	0.0	36.1	6.2	100
76-80	50.3	2.1	0.0	0.0	44.8	2.8	100
85+	30.2	2.3	0.5	0.0	64.3	2.7	100
Total	72.29	17.23	0.53	0.46	3.98	5.51	100
Sample Size	50885	12315	389	294	2825	3749	70457

While the multivariate analyses focus only on men ages 16-40 in order to hone in on labour migration, the descriptive statistics are presented for both men and women and for all ages. Tables 1a and 1b describe current status of the 2004-5 rural sample by age and sex. Note that this includes individuals who have died as well as the households we were unable to reinterview. Tables 1a and 1b suggest that a majority of migration takes place for individuals who were between 15 and 30 in 2004-5 and would be ages 22-37 by 2011-12.

In contrast, Figures 1a and 1b refer only to individuals who are still alive and were not lost in the reinterview process. While comparing to other statistics (e.g. from NSS) this is the number that is most useful. NSS documents outmigration rate to be 9 and 17 percent respectively for rural males and females; among the IHDS sample, it is 14 and 20 percent over a seven year period. NSS documents short-term migration rate to be about 3 percent for rural males and less than 1 percent for rural females; IHDS figures are 4 percent and less than 1 percent respectively. For the reasons discussed above, we believe that the IHDS provides better estimates of long-term out migration

from rural areas than the NSS, although return migration or circular migrations rates are similar for both. However, whether we look at NSS estimates or IHDS estimates, long-term migration appears to be substantially greater than circular migration. This stands in contrast to estimates provided by other scholars such as Priya Deshingkar who estimate circular migrants to be a much greater proportion of the total population (Deshingkar and Akhtar 2009).



Tables 2a and 2b show reasons for migration for long-term migrants where at least one member of the household was left behind to provide information about migrant. It is important to note that these reasons for migration are fuzzy descriptions of underlying processes. Frequently, an uncle may ask his nephew to come to the city, take a short course and then stay on to work. However, a look at stated reasons allows for an opportunity to narrow down the most appropriate ages for a study of labour migration.

Table 2a shows that migration for educational reasons drops drastically after age 15. Hence we focus on men ages 16-40 at the time of the first round interview and their behaviours in subsequent seven years to understand migration dynamics associated with labour market opportunities. While we do not look at women in this paper, Table 2b provides intriguing hints that women's labour migration may also deserve attention. For women ages 25 and under, much of the migration is associated with marriage. But after that age, work plays a non-trivial role in motivating their migration.

Table 2a: Reasons for Long Term Migration (Rural Males)

Age in 2004-5	Joh	Studies	Marriage	Family Reasons	Other	Total
0-5	5.38	51.58	0.11	39.68	3.25	100
6-10	39.98	43.89	0.71	13.01	2.35	100
11-15	60.62	30.81	2.22	4.9	1.38	100
16-20	80.87	11.12	4.07	3	0.93	100
21-25	84.84	2.75	5.62	4.84	1.95	100
26-30	86.78	0.18	3.63	6	3.41	100
31-35	86.36	0.15	1.26	9.07	2.99	100
36-40	85.89	0	0.25	8.95	4.91	100
41-45	84.87	0	0.29	9.69	5.14	100
46-50	85.01	0.81	3.73	2.16	8.28	100
51-55	65.56	0	0	22.27	12.16	100
56-60	55.72	0	0	27.39	16.89	100
61-65	60.06	0	0	17.08	22.86	100
66-70	16.76	0	83.24	0	0	100
71-75	12.74	0	0	12.28	74.98	100
76-80	0	0	0	13.23	86.77	100
85+	0	0	0	100	0	100
Total	63.91	21.04	2.53	9.89	2.58	100

Table 2b: Reasons for Long Term Migration (Rural Females)

Age in 2004-5	Joh	Studies	Marriage	Family Reasons	Other	Total
0-5	5.66	48.82	4.05	37.13	4.11	100
6-10	3.49	27.95	55.8	10.98	1.72	100
11-15	1.42	5.8	89.66	2.81	0.32	100
16-20	2.99	1.11	89.27	4.79	1.84	100
21-25	10.68	0.5	60.32	22.88	5.63	100
26-30	22.4	1.26	23.12	45.58	7.47	100
31-35	26.79	0.12	12.52	46.78	13.79	100
36-40	25.98	5.4	15.26	37.45	15.91	100
41-45	15.64	1.24	10.07	59.11	13.94	100
46-50	21.11	0.23	3.35	48.96	26.34	100
51-55	42.68	0	0	51.99	5.33	100
56-60	43.35	0	0	42.79	13.86	100
61-65	7.82	0	15.49	70.85	5.83	100
66-70	5.85	0	0	57.96	36.19	100
71-75	0	0	4.51	60.1	35.39	100
76-80	32.14	0	0	23.8	44.06	100
85+	33.89	0	0	31.16	34.95	100
Total	5.18	8.31	71.93	11.84	2.72	100

Are people from poor areas more likely to migrate?

If long-term migration is driven by poverty and lack of economic opportunities, we would expect it to be greater in poor states. However, Table 3 which contains estimates of long-term and circular migration as well as mean and median household incomes for each state in 2004-5 shows no consistent pattern. In this table, states are sorted according to their migration levels. Although some of the top sending states are quite poor (e.g. Bihar), rich states like Himachal Pradesh and Kerala also have substantial out migration. Note that IHDS sample is not designed to be representative at state level and hence these relationships should be treated as being indicative rather than being treated as state-wise estimates of out-migration.

Nonetheless, once we distinguish between long-term and return or circular migration, an interesting pattern begins to emerge. Long-term migrants come from both wealthy and poor states but circular migrants are mostly located in poorer states like Uttar Pradesh, Bihar and Chhattisgarh.

Table 3: Migration of Rural Men ages 16-40 and Household Income by State

State	Not Migrant	Long Term Migrant	Return Migrant	Mean Household Income	Median Household Income
Bihar	55.89	27.23	16.88	30819	20185
Madhya Pradesh	68.07	18.86	13.07	36152	20649
Rajasthan	68.84	23.02	8.14	50479	32131
Himachal Pradesh	69.02	29.26	1.72	68587	46684
Uttar Pradesh	70.31	22.49	7.2	40130	24000
Uttarakhand	70.52	27.5	1.98	49892	32962
Kerala	74.41	25.27	0.32	72669	43494
Chhattisgarh	75.44	13.42	11.14	39198	23848
Tamil Nadu	76.47	18.84	4.69	40777	26000
Andhra Pradesh	77.91	15.31	6.78	39111	25600
West Bengal	79.69	12.25	8.06	46171	28051
Orissa	79.72	14.2	6.08	28514	16500
Gujarat	82.23	11.56	6.22	54707	30000
Karnataka	82.28	11.78	5.94	51809	25600
Punjab	83.37	14.8	1.84	73330	48150
Northeast	85.04	14.5	0.46	82614	60000
Maharashtra, Goa	85.27	10.44	4.28	59930	38300
Assam	86.02	7.74	6.24	42258	25000
Jharkhand	86.97	9.2	3.83	42022	24000
Jammu & Kashmir	88.64	9.94	1.42	78586	51458
Haryana	88.73	10.07	1.2	74121	49942
Delhi	94.45	5.55	0	87652	68250
Total	75.96	16.99	7.05	47804	27857

* IHDS is not designed to be representative at state level.

Since state level economic conditions may be too far removed from actual labour market conditions faced by specific households, we also look at prevalent wage rates in the village and the probability migration. Since migration may lead to higher wages, we look at round 1 wages and migration in subsequent years, allowing us to leverage longitudinal data. Prevailing wage data are obtained from a village schedule that was completed via village focus groups consisting of knowledgeable individuals from each village. The interviewers were asked to ensure that the respondents represented diverse sections including farmers and village officials. Respondents were asked to specify prevailing wage rates for men, women and children for a variety of activities. Below, we plot migration against prevailing male wages for unskilled manual work, construction work as well as average of wages for agricultural workers during kharif and rabi harvests. In some instances, no such work was available in or close to the village and wage data are not available. In some cases village schedules were not completed and hence the data are missing.

Results suggest that proportion of the population that does not migrate at all, is more or less unrelated to village wage rates. Proportion that migrates long-term is slightly positively related to village wage rates, and the proportion that engages in circular migration is negatively related to the village wage rates. These divergent patterns would not be visible without distinguishing between long-term and short-term circular migration. Villages in which very little manual work is available also seem to show higher circular migration.

Consider these observations in the context of the conclusion by de Haan (1997) where he notes that, "The evidence available shows quite convincingly that it is not necessarily the poorest districts from which people migrate. Colonial reports in the late nineteenth century show that the out-migrating districts were not necessarily the poorest." De Haan was speaking about long-term migration and arriving at a legitimate conclusion, in contrast circular migration is clearly driven by poor wage rates in the village as well as lack of work.

Fig 2a: Proportion of men who do not migrate by village wage rates

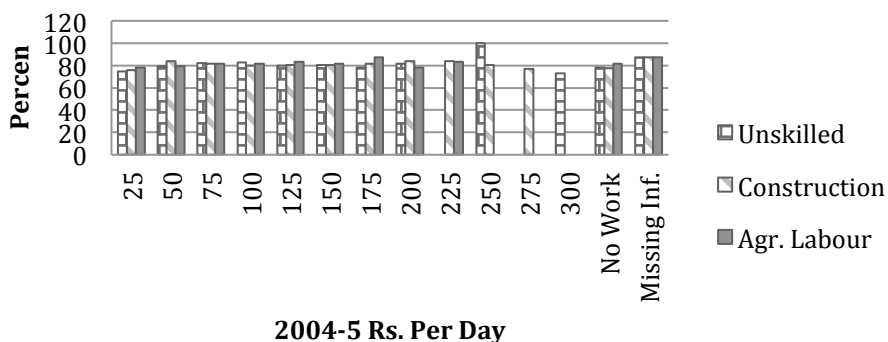


Fig 2b: Proportion of men who migrate long-term by village wage rates

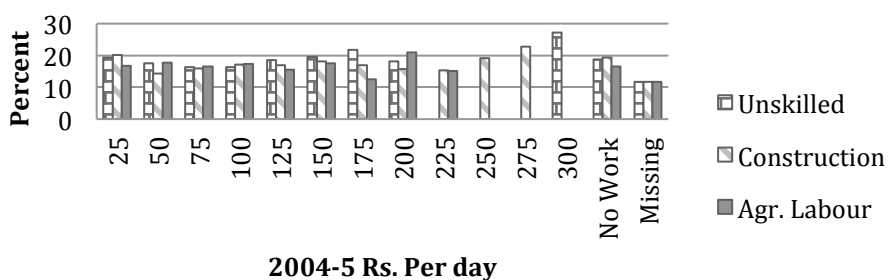
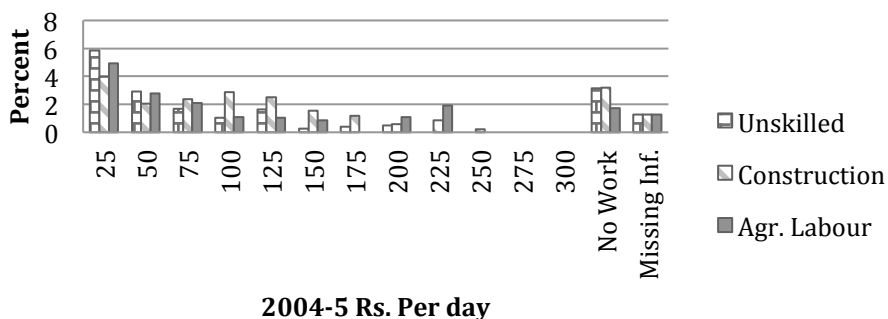
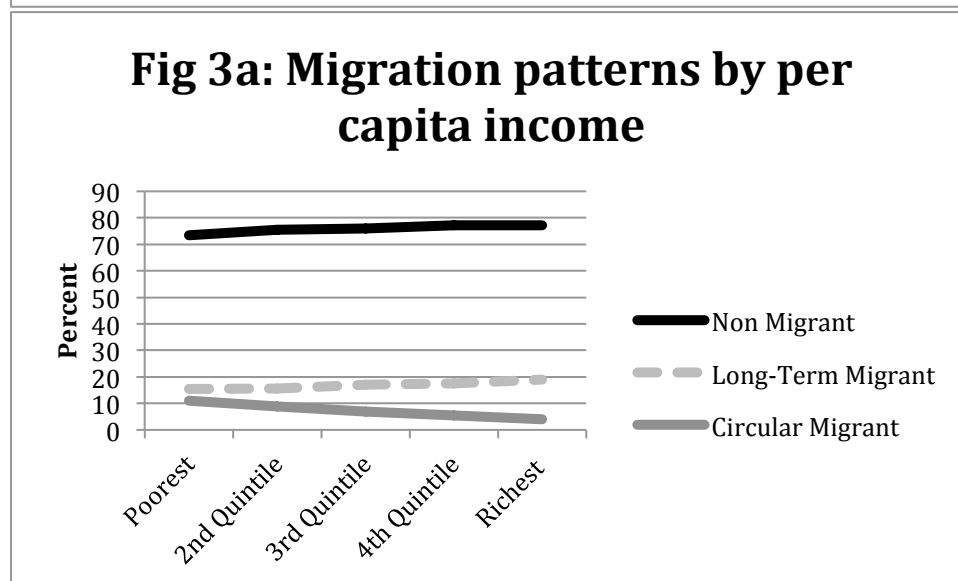
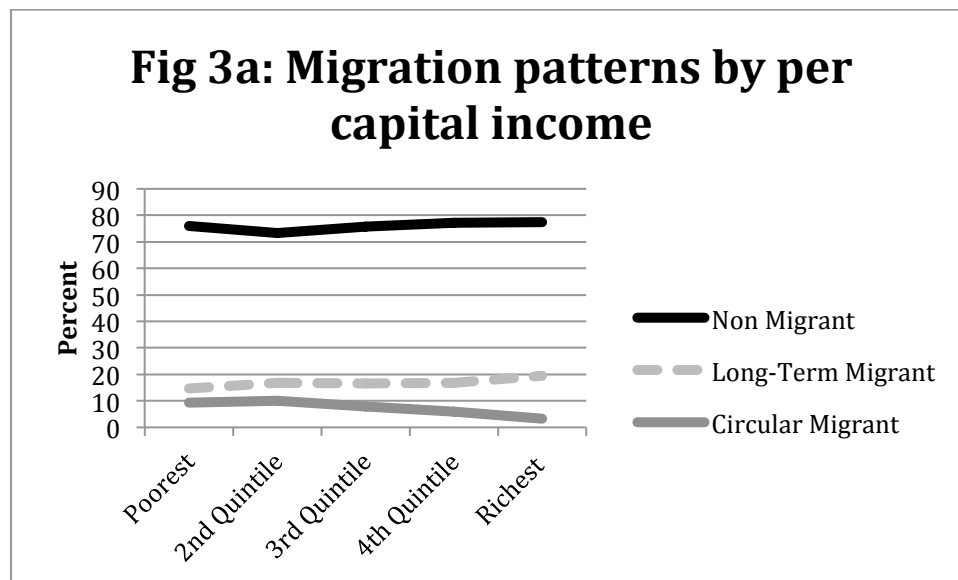


Fig 2c: Proportion of male circular migrants by village wage rates



Are Poor People More Likely to Migrate?

If regional poverty is not pushing individuals into long-term migration, could it be household poverty? After all, even in better off areas, many individuals could be poor and this relative deprivation may be even a more powerful force towards migration (Czaika 2012; Czaika and de Haas 2011). However, migration also requires resources and descriptive statistics suggest that long term migrants are more likely to emerge from richer households than from poorer households.



Once again, Figures 3a and 3b show a diverging pattern between long-term migration and circular or return migration. Increases in household income or consumption in round 1 are linked to increases in long-term migration and to decreases in circular migration. This suggests that circular migration is driven by distress, while long-term migration is driven by opportunity. These findings, in spite of a different methodology and data source, are very similar to those observed from NSS data (National Sample Survey Organisation 2010; Srivastava 2011).

Table 4: Migration status by socio-economic characteristics for rural men ages 16-40

Individual characteristics	Not Migrant	Long Term Migrant	Return Migrant	Total
Education in 2004-5				
No education	75.57	12.93	11.5	100
1-4 std	75.8	13.67	10.53	100
5-9 std	76.98	16.46	6.56	100
10-11 std	76.15	19.23	4.62	100
Class 12 & some college	72.75	24.05	3.2	100
College graduate	75.8	21.88	2.32	100
Missing data on education	74.44	20.44	5.12	100
Per capita household income quintile in 2004-5				
Lowest quintile	76.07	14.68	9.25	100
2nd quintile	73.22	16.74	10.05	100
3rd quintile	75.64	16.54	7.82	100
4th quintile	77.14	16.88	5.99	100
Highest quintile	77.34	19.4	3.26	100
No. of adults in 2004-5 household				
1-2	76.18	14.97	8.85	100
3-5	75.59	18.11	6.3	100
6+	76.65	18.99	4.36	100
Social group				
Forward High castes	77.35	19.29	3.37	100
OBC	75.53	17.83	6.63	100
Dalit	74.33	15.76	9.91	100
Adivasi	77.59	11.99	10.42	100
Muslim	77.19	16.37	6.45	100
Christian, Sikh, Jain	77.72	21.29	0.99	100
All India	75.96	16.99	7.05	100
Sample Size	20732	4538	1601	26871

Table 4 shows distribution of migration status across various socio-economic characteristics. Once again it shows a pattern of privilege for long-term migrants and marginalisation for circular migrants. Long-term migrants are more likely to be educated, come from upper income groups and are forward caste. In contrast, circular or return migrants are less educated, tend to be dalits or adivasis and come from poorer sections of the society. What is most interesting is that these opposite forces often counterbalance so there are few differences in overall migration status across individuals from different social backgrounds.

Long-Term Vs. Circular Migration: Is it is a Continuum?

Discussion of migration often fails to distinguish between long-term and circular migration as if the two are a part of a continuum. Tables 5a and 5b suggest that this is not the case. Factors that encourage long-term migration in fact tend to *discourage* circular migration.

Migration literature has noted that migration, particularly long distance migration to unfamiliar places, takes resources (Massey et al. 1998). Moreover, work opportunities and salaries in rural area for educated individuals tends to be highly constrained. IHDS data from 2004-5 shows that daily income for uneducated adult males in 2004-5 was 57 Rs./day in rural areas and 91 Rs./day in urban areas; for college graduates, the corresponding figures are Rs. 206 per day and Rs. 347. While workers at each education level gain by being in a city, the absolute gain is much higher for educated workers and easily offsets the migration related expenditure. In contrast, the literature (Breman 1985; Deshingkar et al. 2008) suggests that circular migration is driven by distress and vulnerability – factors least likely to affect households with sufficient wealth to obtain high levels of education for their children.

In order to disentangle the effects of household income, education, caste and social background we examine male migration using a multinomial logistic framework where men could engage in one of the three activities: (1) Continue to reside in the same village and either work in the village or undertake daily commute to a nearby town to work; (2) Migrate and live elsewhere; (3) Go away to work for a period of at least one month but return to the origin village to live. These three outcomes are jointly determined in a multinomial logistic regression where we examine the impact of a series of individual, household and community characteristics on the type of migration chosen.

Results from these multinomial regressions are presented in Tables 5a and 5b. Table 5a evaluates the log odds of undertaking long-term migration against staying in place. Table 5b evaluates the log odds of undertaking circular migration against staying in place. For each outcome, we estimate three models. Model 1 contains household per capita income quintile (for 2004-5), model 2 adds educational attainment in 2004-5 and model three adds village wage rates and distance from transportation.

determinants of long term migration vs. staying in place from multinomial logistic regression for men ages 16-40

Vars measured in 2004-5	1: Without Education		2: With Education		3: With Controlling for Education	
	Coefficient	SE	Coefficient	SE	Coefficient	SE
in village					-0.001	0.001
family available					0.189	0.081
education					-1.207	0.102**
caste (omitted)					0.028	0.028
			0.105	0.115	0.118	0.118
			0.039	0.081	0.053	0.081
			0.19	0.099	0.199	0.099
religion			0.536	0.102**	0.524	0.102**
			0.445	0.133**	0.473	0.133**
income quintile			0.198	0.353	0.232	0.353
income quintile (lowest omitted)						
	0.114	0.089	0.116	0.09	0.125	0.089
	0.087	0.082	0.077	0.083	0.077	0.082
	0.095	0.083	0.067	0.084	0.073	0.083
	0.249	0.082**	0.16	0.083	0.188	0.082**
	-0.059	0.004**	-0.059	0.004**	-0.06	0.004**
	0.048	0.013**	0.036	0.013**	0.039	0.013**
caste (omitted)						
	-0.156	0.072*	-0.112	0.073	-0.097	0.072*
	-0.212	0.078**	-0.142	0.079	-0.116	0.078**
	-0.227	0.102*	-0.153	0.104	-0.133	0.102*
	-0.075	0.1	0.007	0.102	0.047	0.1
	0.047	0.148	0.043	0.15	0.054	0.148
	-1.003	0.207**	-1.163	0.224**	-1.212	0.207**

variables for state of resident, results not shown

23433	22361	20527
64	76	84
26871	26871	26871

Determinants of circular migration vs. staying in place from multinomial logistic regression for men ages 16-40

. Vars measured in 2004-5	1: Without Education		2: With Education		3: With Con Effect
	Coefficient	SE	Coefficient	SE	Coefficient
in village					-0.011
sily available					-0.049
ile					-1.247
					0.05
itted)					
			-0.007	0.132	-0.003
			-0.438	0.091**	-0.417
			-0.554	0.143**	-0.542
ollege			-0.75	0.200**	-0.755
			-0.953	0.298**	-0.982
lucaiton			-0.847	0.557	-0.744
l income quintile (lowest omitted)					
	0.024	0.111	0.017	0.111	0.014
	-0.203	0.116	-0.191	0.116	-0.164
	-0.343	0.117**	-0.297	0.118*	-0.257
	-0.611	0.142**	-0.482	0.143**	-0.411
	-0.028	0.005**	-0.034	0.005**	-0.035
	-0.12	0.026**	-0.096	0.026**	-0.095
d caste omitted)					
	0.39	0.141**	0.316	0.142*	0.319
	0.831	0.147**	0.712	0.149**	0.718
	0.895	0.152**	0.728	0.154**	0.663
	0.554	0.173**	0.396	0.177*	0.4
γ	0.016	0.362	0.043	0.363	0.048
	-3.148	0.403**	-2.591	0.413**	-1.972

γ variables for state of resident, results not shown
 reported in table 5a since these outcomes are jointly estimated.

Results in Table 5a suggest that households with higher income are more likely to engage in long-term migration, although they are less likely to engage in circular migration. Forward castes are more likely to engage in long-term migration but less likely to undertake circular migration. Part of this effect is due to higher education among wealthier and forward caste households. Addition of education variables in panel 2 reduces the size of income coefficients for long-term migration substantially, making them almost insignificant. In contrast when we look at circular migration, men from better off households are less likely to migrate regardless of the education, i.e. the income coefficient for circular migration becomes somewhat smaller after adding education but remains large and statistically significant. Similarly, forward castes remain less likely to engage in circular migration, regardless of their education.

Village economic conditions affect circular migration but have almost no impact on long-term migration. Men who live in villages where unskilled workers are paid more are far less likely to engage in circular migration than those who live in villages with low wages. In contrast, individuals who live in villages which have higher wages for unskilled labourers are as likely to engage in long term migration as those who live in villages with lower wages. This is not surprising if we think of long term migration as a mobility strategy in which workers are drawn to higher paying jobs, mostly in urban areas. Access to transportation is one factor that has a similar impact on both long-term and circular migration. Villages which are closer to a bus stop tend to depress both long-term and circular migration since workers can easily commute to nearby towns while living in their native villages.

How do we expect MGNREGA to influence migration?

This paper began with some of the concerns expressed by employers in finding workers. They argue, MGNREGA may decrease worker incentive to migrate. Mahatma Gandhi National Rural Guarantee Act (MGNREGA) is designed to provide 100 days of manual work to each household per year. It has sometimes been argued that this work sets a floor on wages and thereby increases agricultural and non-agriculture manual wages in all types of work. It also reduces the incentive to migrate, causing labour shortages in factories in urban areas and in states like Punjab where agriculture relies on migrant labour.

While our study is unable to make a direct contribution to this debate, some of our findings are intriguing. Table 6a and 6b present results from multinomial logistic regression in which we control for phase implementation of MGNREGA. MGNREGA was first implemented in the poorest districts of the country, followed by rest of the country being divided into phase 2 and phase 3.

Table 6a: Determinants of Long-Term Migration (vs.staying in place) from Multinomial Logistic Regression with NREGA phase and wage growth

Indep. Vars measured in 2004-5	Model 1: NREGA Phase		Model 2: With Wages	
	Coefficient	SE	Coefficient	SE
Unskilled male wages in the village			0	0.002
Growth in male wages between 2 rounds (in Rs.)			0.001	0
MGNREGA Implementation phase (Phase 1 omitted)				
Phase 2	0.029	0.083	0.021	0.083
Phase 3	-0.089	0.072	-0.104	0.072
Distance to bus stop (km)	0.035	0.008**	0.036	0.008**
Education (None omitted)				
1-4 std	0.147	0.119	0.145	0.119
5-9 std	0.093	0.084	0.089	0.084
10-11 std	0.186	0.102	0.182	0.102
Class 12 & some college	0.589	0.107**	0.586	0.107**
College graduate	0.574	0.126**	0.571	0.126**
Missing data on educaiton	0.074	0.4	0.076	0.4
Per capita household income quintile (lowest omitted)				
2nd quintile	0.116	0.092	0.118	0.092
3rd quintile	0.062	0.088	0.062	0.088
4th quintile	0.03	0.089	0.03	0.089
Highest quintile	0.169	0.088	0.169	0.088
Age in 2004-5	-0.06	0.004**	-0.061	0.004**
No. of Adults in the household	0.035	0.014**	0.036	0.014**
Social group (Forward caste omitted)				
OBC	-0.109	0.075	-0.111	0.075
Dalit	-0.147	0.081	-0.151	0.081
Adivasi	-0.153	0.11	-0.149	0.112
Muslim	0.056	0.108	0.047	0.108
Christian, Sikh, Jain	-0.136	0.196	-0.153	0.196
Constant	-1.168	0.246**	-1.266	0.288**

Also includes dummy variables for state of resident, results not shown

Wald chi2	1465	1511.68
d.f.	80	84
Sample Size	23912	23912

Table 6b: Determinants of Circular Migration (vs. staying in place) from Multinomial Logistic Regression with NREGA phase and wage growth

Indep. Vars measured in 2004-5	Model 1: NREGA Phase		Model 2: With Wages	
	Coefficient	SE	Coefficient	SE
Unskilled male wages in the village			-0.014	0.003**
Growth in male wages between 2 rounds (in Rs.)			-0.003	0.001**
MGNREGA Implementation phase (Phase 1 omitted)				
Phase 2	-0.415	0.117**	-0.381	0.117**
Phase 3	-0.239	0.105*	-0.133	0.099
Distance to bus stop (km)	0.047	0.009**	0.042	0.009**
Education (None omitted)				
1-4 std	-0.026	0.14	-0.017	0.139
5-9 std	-0.373	0.094**	-0.352	0.094**
10-11 std	-0.501	0.149**	-0.459	0.150**
Class 12 & some college	-0.786	0.219**	-0.765	0.219**
College graduate	-1.225	0.356**	-1.207	0.358**
Missing data on education	-0.744	0.551	-0.733	0.539
Per capita household income quintile (lowest omitted)				
2nd quintile	0.072	0.114	0.073	0.114
3rd quintile	-0.139	0.121	-0.121	0.122
4th quintile	-0.26	0.119*	-0.229	0.119
Highest quintile	-0.411	0.151**	-0.351	0.152*
Age in 2004-5	-0.036	0.005**	-0.035	0.005**
No. of Adults in the household	-0.11	0.026**	-0.112	0.026**
Social group (Forward caste omitted)				
OBC	0.304	0.138*	0.31	0.138*
Dalit	0.674	0.148**	0.685	0.148**
Adivasi	0.576	0.158**	0.498	0.159**
Muslim	0.387	0.179*	0.382	0.179*
Christian, Sikh, Jain	0.243	0.36	0.312	0.365
Constant	-2.273	0.443**	-0.771	0.507

Also includes dummy variables for state of resident, results not shown

Sample restricted to villages where wage data is available

A number of studies have shown the intensity of MGNREGA work availability is associated with the duration of implementation, captured by implementation phase (Berg et al. 2012). However, it is also important to remember that the first set of districts to receive the program were the poorest districts.

Table 6a shows that there are few differences in long-term migration between districts in phases 1, 2, and 3. This is consistent with our observation that wages for unskilled manual workers have very little impact on long-term migration. When it comes to return or circular migration, there is substantial difference between phase 1, 2 and 3 districts but in the opposite direction from that hypothesized. Phase 1 districts – where MGNREGA has been implemented for the longest time – have the highest level of circular migration. While MGNREGA may have had some impact on raising wages, this impact has not wiped away initial poverty in these districts leaving them far more prone to higher male circular migration than others.

Model 2 of Tables 6a and 6b adds male unskilled wages as well as growth in these wages between 2004-5 and 2011-12. Addition of these two variables is statistically significant. Initial starting wages as well as growth in these wages reduces circular migration and narrows the gap in circular out-migration between the districts in MGNREGA implementation phase 1, 2, and 3 but does not eliminate it. This is consistent with the observation by a number of studies (Berg et al. 2012; Dutta et al. 2014) that MGNREGA leads to increase in rural wages but also suggests that as far as labour migration is concerned, this effect is relatively small.

Path dependency in migration:

Migration literature has increasingly moved beyond simple push-pull arguments to highlight the complex considerations involved in individuals' and families' decisions regarding whether to migrate. In the context of the present study, two such considerations deserve particular attention.

First, as the new migration literature notes (De Haan and Rogaly 2002; Lucas 1997; Stark 1991), migration is part of a complex household decision. Larger households may choose to send some of its members to work in other areas to diversify income sources and protect against shocks as well as to increase opportunities for children and other family members. Thus, for one brother to stay in the native village and take care of the farm while for another to move to a city and look for work is quite common. Our results, particularly those presented in Table 7, show that larger households are far more likely to engage in long-term migration. In contrast, larger households appear to be less likely to engage in circular migration – possibly because circular migration is driven mostly by distress and larger households with more workers are less likely to experience such distress.

Table 7: Determinants of Long-Term and Circular Migration (vs. not migrating) from Multinomial Logistic Regression with Social Networks

Indep. Vars measured in 2004-5	Long-term migration		Circular Migration	
	Coefficient	SE	Coefficient	SE
Received any remittance income in round 1	0.389	0.097**	-0.119	0.2
Unskilled male wage in village	-0.001	0.001	-0.011	0.002**
No unskilled work easily available	0.186	0.174	-0.064	0.239
Missing village module	-1.187	0.250**	-1.234	0.379**
Km to bus stop	0.027	0.008**	0.048	0.009**
MGNREGA Implementation phase (Phase 1 omitted)				
Phase 2	0.019	0.083	-0.443	0.114**
Phase 3	-0.121	0.071	-0.227	0.099*
Education (None omitted)				
1-4 std	0.122	0.114	0	0.131
5-9 std	0.051	0.081	-0.409	0.090**
10-11 std	0.188	0.098	-0.539	0.144**
Class 12 & some college	0.518	0.102**	-0.763	0.203**
College graduate	0.47	0.123**	-0.989	0.303**
Missing data on education	0.229	0.364	-0.753	0.539
Per capita household income quintile (lowest omitted)				
2nd quintile	0.13	0.088	0.001	0.11
3rd quintile	0.069	0.084	-0.184	0.116
4th quintile	0.061	0.085	-0.275	0.117*
Highest quintile	0.167	0.083*	-0.427	0.143**
Age in 2004-5	-0.06	0.004**	-0.035	0.005**
No. of Adults in HH	0.038	0.013**	-0.095	0.026**
Social group (Forward caste omitted)				
OBC	-0.091	0.072	0.315	0.141*
Dalit	-0.113	0.079	0.697	0.149**
Adivasi	-0.149	0.106	0.611	0.156**
Muslim	0.047	0.102	0.364	0.179*
Christian, Sikh, Jain	0.051	0.152	0.081	0.366
Constant	-1.107	0.256**	-1.69	0.452**

Also includes dummy variables for state of resident, results not shown

Wald chi2	20573.74
d.f.	84
Sample Size	26871

Second, once long-term migration begins, it is a fissure that continues to widen. One household member migrates and provides an anchor that allows others to follow. Thus, as Table 7 documents, households that received remittance in round 1, indicating

successful migration by some household members, create conditions for continued male long-term migration. However, no such effect is visible for circular migration.

Discussion:

This paper has presented results from a nationally representative panel survey of households carried out by University of Maryland and National Council of Applied Economic Research (NCAER) in 2004-5 and 2011-12. The India Human Development Survey (IHDS) provides estimates of outmigration using a prospective design. Focusing on migration of rural males ages 16-40, we show that diametrically opposite forces seem to drive long-term migration and circular, short-term migration.

Long-term migration is a part of households' mobility strategy and is largely used by privileged rural households from which educated men migrate – mostly to urban areas – in search of better paying jobs. Programs such as MGNREGA have little impact on this type of migration since it is not driven by rural wages but rather by urban opportunities. The only contextual factor that affects long-term migration is a better transportation network, allowing workers to commute to nearby towns for urban opportunities instead of having to migrate long-distance.

In contrast, circular or return migration is part of households' survival strategy and is primarily used by marginalized and poor households. Men from dalit and adivasi communities are far more likely to engage in circular migration than those from forward caste households. When rural wages for unskilled work rise, this reflects rising opportunities and reduces incentive to engage in circular migration. In as much MGNREGA is associated with rising rural wages, it may well reduce circular migration somewhat. But to date, this effect seems to be relatively mild and the poorest districts continue to send disproportionate numbers of men to work as temporary casual workers. This suggests that employer concerns about the impact of MGNREGA on worker availability due to curtailed migration may be overstated.

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